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10/591,062	10/02/2007	Winfried Ebner	CB60766	5950

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EXAMINER	
DYE, ROBERT C	

ART UNIT	PAPER NUMBER
4151	

NOTIFICATION DATE	DELIVERY MODE
11/14/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/591,062	EBNER ET AL.	
	Examiner	Art Unit	
	ROBERT DYE	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/30/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby et al. (WO 94/05183) in view of Cann et al. (USP 6,514,445) and further in view of Steinebrunner (DE 10104034, already of record).

5. Regarding claim 1, Leversby et al. (hereinafter Leversby) teach a process for molding a dual component toothbrush wherein a plastic material body is provided in a first step and a second material which may be elastic (pg 4, line 24) is injection molded

onto the back of plastic material head part (pg 3, lines 2-5, see figure 1, item 13, and figure 5, item 20). The mold of Leversby consists of a first and second block which forms the opposing surfaces of the brush. Although Leversby state that the material may be elastic, they do not specify that the material is a thermoplastic elastomer. In the same field of endeavor toothbrush manufacture, Cann et al. (hereinafter Cann) disclose a method for making a dual-component toothbrush head wherein a thermoplastic elastomer (col 6, line 55) is injected onto a plastic material head (col 2, lines 7-20). Cann teach that the elastomer allows the toothbrush head to be resiliently flexible (col 7, lines 62-67). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to inject an elastomer material as taught by Cann into the mold of Leversby to provide for a toothbrush head that is resiliently flexible (col 7, lines 62-67).

6. The hypothetical combination of Leversby and Cann still do not teach that the mold is provided with a means to allow air to vent from the mold cavity other than the primary split line. In the same field of endeavor of making toothbrushes, Steinebrunner teaches a mold for making toothbrushes which includes two mold blocks for the front and back surfaces of the toothbrush and within the second block, a vent channel leading to the atmosphere for the purpose of preventing hot gasses and molding material from entering molding channels for the bush bristles (translated abstract). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to have included a mold configuration with a means to vent air from the mold cavity as taught by Steinebrunner in the hypothetical combination of Leversby and Cann

for the purpose of preventing hot gases from entering the molding channels for the brush bristles during the elastomer injection step.

7. Regarding claim 2, Steinebrunner teaches that the vent channel is located in the second mold block (second block is on the back face of the toothbrush head) (see figure 1). It would have been obvious for a person having ordinary skill in the art at the time of the invention to position the vent channel in the second mold block as taught by Steinebrunner in the invention of Leversby for the purpose of providing an unobstructed pathway for the vent channel to reach the atmosphere.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby et al. (WO 94/05183) in view of Cann et al. (USP 6,514,445) and Steinebrunner (DE 10104034, already of record), and further in view of Britz (US Patent 4,909,972).

9. Regarding claim 3, Leversby (modified) teach a process for molding a dual component toothbrush with a venting means located within the second mold block of the brush mold as discussed for claim 1. The combination does not teach a process wherein the second mold block is comprised of two parts and that the split line comprises the means to allow air to vent from the mold cavity. In the same field of endeavor of injection molding, Britz teaches a method for injection molding an article in a vented mold wherein the vents are formed in the split line between two parts (col 7, lines 36-39 and figure 5) and that this split line may extend along the entire length of the mold cavity in order to promote the formation of a molded product having uniform density along its entire length (col 6, lines 14-18). Thus, it would have been obvious to a

person having ordinary skill in the art at the time of the invention to have used a split line as a venting means as taught by Britz to serve as the vent in the hypothetical combination of Leversby (modified) for the benefit of promoting the formation of a molded product with uniform density (col 6, lines 14-18).

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby et al. (WO 94/05183) in view of Cann et al. (USP 6,514,445), Steinebrunner (DE 10104034, already of record) and further in view of Britz (US Patent 4,909,972) and Davies (WO-A-04/041025).

11. Regarding claim 4, Leversby (modified) teach a process for molding a dual component toothbrush with a venting means located within the second mold block of the brush mold as described above in claim 1. Leversby (modified) do not teach a process wherein the second mold block is comprised of two parts which form a split line. In the same field of endeavor of injection molding, Britz teaches a method for injection molding an article in a vented mold wherein the vents are formed in the split line between two parts (col 7, lines 36-39 and figure 5) and that this split line may extend along the entire length of the mold cavity in order to promote the formation of a molded product having uniform density along its entire length (col 6, lines 14-18). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a split line as a venting means as taught by Britz to serve as the vent in the process of Leversby (modified) for the benefit of promoting the formation of a molded product with uniform density (col 6, lines 14-18).

12. Regarding the elastomer ribs, Leversby (modified) do not teach a method wherein the elastomer material forms ribs across the longitudinal direction of the toothbrush and extend in a height direction perpendicular to the head. In the same field of endeavor of toothbrush manufacture, Davies teaches a toothbrush wherein flaps are included on the opposite surface of a toothbrush head (see figures 1 and 12) that are preferably formed from thermoplastic elastomer material (pg 2, line 15). Davies teaches that these flaps “effect a gentler action on the oral care surfaces with massaging the buccal surfaces during regular toothbrushing or even massaging the gums as a separate action" (pg 2, lines 17-20). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have included the elastomer ribs as taught by Davies in the method of Leversby (modified) for the benefit of providing the toothbrush with a means to massage the gums or scrape the tongue (pg 3, lines 27-29).

13. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby et al. (WO 94/05183) in view of Steinebrunner (DE 10104034, already of record).

14. Regarding claim 1, Leversby et al. (hereinafter Leversby) teach an apparatus for molding a dual component toothbrush which comprises a mold made of a first and second mold block (see figure 5, items 26 and 27) which encloses around the head of a semi-finished toothbrush (item 2). The second mold cavity defines a cavity for the formation of part made of a second material (see item 20 in figure 5) which is formed by injection mold nozzle 33. Leversby teaches that the injection mold apparatus introduces

a second material which may be elastic in the to the mold cavity. Thus it would be capable of introducing a thermoplastic elastomer material into the mold.

15. Leversby do not teach that the mold is provided with a means to allow air to vent from the mold cavity other than the primary split line. In the same field of endeavor of making toothbrushes, Steinebrunner teaches a mold for making toothbrushes which includes two mold blocks for the front and back surfaces of the toothbrush and within the second block, a vent channel leading to the atmosphere for the purpose of preventing hot gasses and molding material from entering molding channels for the bush bristles (translated abstract). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to have included a mold configuration with a means to vent air from the mold cavity as taught by Steinebrunner in the apparatus of Leversby the purpose of preventing hot gases from entering the molding channels for the brush bristles during the elastomer injection step.

16. Regarding claim 6, Steinebrunner teaches that the vent channel is located in the second mold block (second block is on the back face of the toothbrush head) (see figure 1). It would have been obvious for a person having ordinary skill in the art at the time of the invention to position the vent channel in the second mold block as taught by Steinebrunner in the apparatus of Leversby for the purpose of providing an unobstructed pathway for the vent channel to reach the atmosphere.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby et al. (WO 94/05183) in view of Steinebrunner (DE 10104034, already of record), and further in view of Britz (US Patent 4,909,972).

18. Regarding claim 3, the hypothetical combination of Leversby and Steinebrunner teaches an apparatus for molding a dual component toothbrush with a venting means located within the second mold block of the brush mold as discussed for claim 5. The combination does not teach a process wherein the second mold block is comprised of two parts and that the split line comprises the means to allow air to vent from the mold cavity. In the same field of endeavor of injection molding, Britz teaches an apparatus for injection molding an article in a vented mold wherein the vents are formed in the split line between two parts (col 7, lines 36-39 and figure 5) and that this split line may extend along the entire length of the mold cavity in order to promote the formation of a molded product having uniform density along its entire length (col 6, lines 14-18). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a split line as a venting means as taught by Britz to serve as the vent in the hypothetical combination of Leversby and Steinebrunner for the benefit of promoting the formation of a molded product with uniform density (col 6, lines 14-18).

19. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby (WO 94/05183) in view of Steinebrunner (DE 10104034, already of record) and further in view of Britz (US Patent 4,909,972) and Davies (WO-A-04/041025).

20. Regarding claim 8, the hypothetical combination of Leversby and Steinebrunner teaches an apparatus for molding a dual component toothbrush with a venting means located within the second mold block of the brush mold as described above in claim 5. The combination does not teach a process wherein the second mold block is comprised of two parts which form a split line. In the same field of endeavor of injection molding, Britz teaches an apparatus for injection molding an article in a vented mold wherein the vents are formed in the split line between two parts (col 7, lines 36-39 and figure 5) and that this split line may extend along the entire length of the mold cavity in order to promote the formation of a molded product having uniform density along its entire length (col 6, lines 14-18). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a split line as a venting means as taught by Britz to serve as the vent in the hypothetical combination of Leversby and Steinebrunner for the benefit of promoting the formation of a molded product with uniform density (col 6, lines 14-18).

21. Regarding the elastomer ribs, Leversby do not teach a mold cavity for forming ribs that cross the longitudinal direction of the toothbrush and extend in a height direction perpendicular to the head. In the same field of endeavor of toothbrush manufacture, Davies teaches a toothbrush wherein flaps are included on the opposite surface of a toothbrush head (see figures 1 and 12) that are preferably formed from thermoplastic elastomer material (pg 2, line 15) and can be formed in an injection mold (pg4, line 31). Davies teaches that these flaps “effect a gentler action on the oral care surfaces with massaging the buccal surfaces during regular toothbrushing or even

massaging the gums as a separate action" (pg 2, lines 17-20). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have modified the second mold of Leversby to provide it with concavities to form elastomer ribs as taught by Davies for the benefit of producing an apparatus capable of producing a toothbrush with a means to massage the gums or scrape the tongue (pg 3, lines 27-29).

22. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby (WO 94/05183) in view of Cann et al. (US 6,514,445, already of record), and further in view of Davies (WO-A-04/041025).

23. Regarding claim 9, Leversby et al. (hereinafter Leversby) teach a process for molding a dual component toothbrush wherein a plastic material body is provided in a first step and a second material which may be elastic (pg 4, line 24) is injection molded onto the back of plastic material head part (pg 3, lines 2-5, see figure 1, item 13, and figure 5, item 20). The mold of Leversby consists of a first and second block which forms the opposing surfaces of the brush. Although Leversby state that the material may be elastic, they do not specify that the material is a thermoplastic elastomer nor do they specify the injection temperature. In the same field of endeavor toothbrush manufacture, Cann et al. (hereinafter Cann) disclose a method for making a dual-component toothbrush head wherein a thermoplastic elastomer (col 6, line 55) is injected onto a plastic material head (col 2, lines 7-20). Cann teach that the elastomer allows the toothbrush head to be resiliently flexible (col 7, lines 62-67). Furthermore,

Cann teach that the elastomer is preferably injected at a temperature in the range from about 245°C to about 270°C, more preferably in the range from about 250°C to about 260°C in order to improve the strength of fusion between the plastic and the elastomer. Thus satisfying the temperature requirement. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to inject an elastomer material at a temperature as taught by Cann into the mold of Leversby to provide for a toothbrush head that is resiliently flexible (col 7, lines 62-67) and to improve the strength of fusion between the elastomer and the plastic.

24. Regarding the elastomer ribs, Leversby and Cann do not teach a method wherein the elastomer material forms ribs across the longitudinal direction of the toothbrush and extend in a height direction perpendicular to the head. In the same field of endeavor of toothbrush manufacture, Davies teaches a toothbrush wherein flaps are included on the opposite surface of a toothbrush head (see figures 1 and 12) that are preferably formed from thermoplastic elastomer material (pg 2, line 15). Davies teaches that these flaps “effect a gentler action on the oral care surfaces with massaging the buccal surfaces during regular toothbrushing or even massaging the gums as a separate action" (pg 2, lines 17-20). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have included the elastomer ribs as taught by Davies in the method of Leversby for the benefit of providing the toothbrush with a means to massage the gums or scrape the tongue (pg 3, lines 27-29).

25. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leversby (WO 94/05183) in view of Cann et al. (USP 6,514,445, already of record), and Davies (WO-A-04/041025), and further in view of Torniainen et al. (USP 6306238).

26. Regarding claim 1, Leversby et al. (hereinafter Leversby) teach a process for molding a dual component toothbrush wherein a plastic material body is provided in a first step and a second material which may be elastic (pg 4, line 24) is injection molded onto the back of plastic material head part (pg 3, lines 2-5, see figure 1, item 13, and figure 5, item 20). The mold of Leversby consists of a first and second block which forms the opposing surfaces of the brush. Although Leversby state that the material may be elastic, they do not specify that the material is a thermoplastic elastomer. In the same field of endeavor toothbrush manufacture, Cann et al. (hereinafter Cann) disclose a method for making a dual-component toothbrush head wherein a thermoplastic elastomer (col 6, line 55) is injected onto a plastic material head (col 2, lines 7-20). Cann teach that the elastomer allows the toothbrush head to be resiliently flexible (col 7, lines 62-67). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to inject an elastomer material as taught by Cann into the mold of Leversby to provide for a toothbrush head that is resiliently flexible (col 7, lines 62-67).

27. Regarding the elastomer ribs, Leversby and Cann not teach a method wherein the elastomer material forms ribs across the longitudinal direction of the toothbrush and extend in a height direction perpendicular to the head. In the same field of endeavor of

toothbrush manufacture, Davies teaches a toothbrush wherein flaps are included on the opposite surface of a toothbrush head (see figures 1 and 12) that are preferably formed from thermoplastic elastomer material (pg 2, line 15). Davies teaches that these flaps "effect a gentler action on the oral care surfaces with massaging the buccal surfaces during regular toothbrushing or even massaging the gums as a separate action" (pg 2, lines 17-20). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have included the elastomer ribs as taught by Davies in the method of Leversby for the benefit of providing a means to massage the gums or scrape the tongue (pg 3, lines 27-29).

28. Regarding the ejection temperature, Leversby is silent. In the same field of endeavor of producing plastic products via injection molding, Torniainen et al. discloses as prior art, a method for making a plastic part wherein hot melt plastic is fed into an injection molding device, formed into a desired shape, quickly cooled to about room temperature to form solid pieces, and then ejected or removed from the device. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have cooled the injection molded article to about room temperature (room temperature is about 20°C-23°C, above the 20°C in the claim).

29. Regarding claim 11, wherein the ejection temperature is between 30-40°C, although the room temperature value stated above does not fall within the 30 to 40°C range, it would have been obvious to one having ordinary skill in the art to conduct limited experimentation to optimize the molding process and adjust the cooling temperature as needed, since it has been held that where the general conditions of a

claim are disclosed in the prior art, discovering the optimum or workable ranges involve only routine skill in the art. See In re Aller, 105 USPQ 233, 235.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT DYE whose telephone number is (571)270-7059. The examiner can normally be reached on Monday to Friday 8:00AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571)272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert B. Davis/
Primary Examiner, Art Unit 1791
For Angela Ortiz, SPE 4151
11/6/08

/R. D./